PowerPanel® Business Edition Installation Guide

For

UPS without Remote Management Card

Rev. 13

2014/09/10

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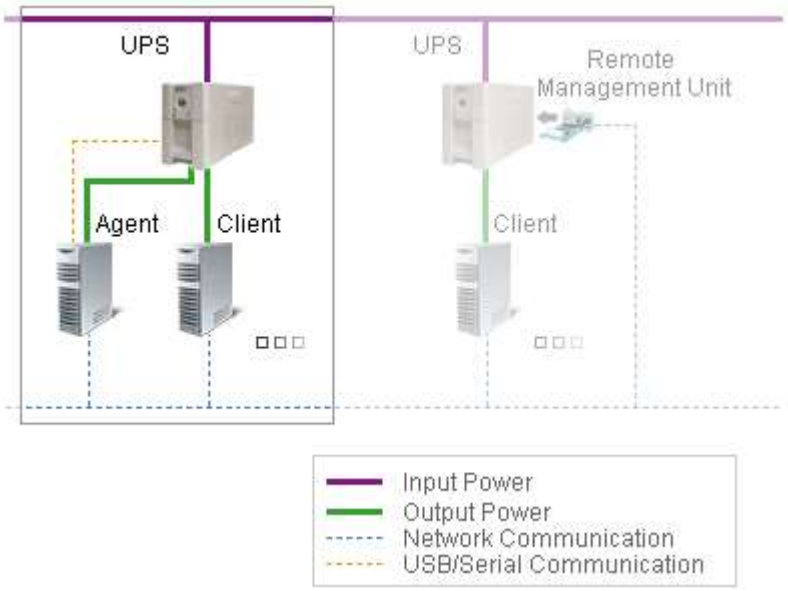
Introduction

PowerPanel® Business Edition software provides for the power management and unattended/automatic shutdown of PCs and servers connected to the UPS. When one computer is supplied power by the UPS and communicates with the UPS through the USB or serial connection, installing PowerPanel® Business Edition Agent on this single computer can initiate a shutdown in the event of the power outage to prevent the hosted computer from experiencing data loss.

Computers which are also supplied power by the UPS can be protected by installing Client. The Agent establishes communication with the Client via the network and relays the UPS state to the Client. Before the UPS stops supplying power to the Client computer, the Client will be ordered to perform an early, graceful shutdown by the Agent.



Hardware Installation

Connect Computer's Power with UPS Correctly

UPS outlets may have different functions: **Surge + Battery** protected outlets provide protection for the equipment connected to them and supply battery power once power outage occurs. **Surge** protected outlets provides protection for the equipment but does not provide battery power when a power outage occurs. The Agent computer should be connected to the UPS in one of the **Surge + Battery** protected outlets instead of a **Surge** outlet.

On specific modes, **NCL** (Non-critical load) outlets are designed to turn off early to save battery power in order to maximize the battery runtime for the remaining outlets. The Agent computer also should be not plugged into these NCL outlets. Determine which outlet should be used by the Agent computer according the following:

Smart App Online series.

Outlets numbered **1** or **2** are NCL. The Agent computer should be plugged into one of the other outlets instead of these numbered ones.

Smart App Sinewave series and **Professional Rack Mount LCD** series.

The Agent computer should be plugged into one of outlets labeled **CRITICAL LOAD**.

Smart App Intelligent LCD series.

The Agent computer should be plugged into one of outlets labeled **SURGE** + **BATTERY**.

Note: *The Agent computer should also be plugged into one of outlets labeled* ***SURGE + BATTERY*** *in other series such as the* ***Smart App AVR*** *series,* ***PFC Sinewave*** *series,* ***Intelligent LCD*** *series****, AVR*** *series,* ***Standby*** *series,* ***BS*** *series,* ***DX*** *series,* ***BRICs*** *series,* ***BRICs LCD*** *series,* ***Office Rack Mount*** *series and* ***Office Tower*** *series.*

Value series, **Value GP** series, **Value GP LCD** series and **Paragon Tower** series.

- The Agent computer can be plugged into any of the outlets.

Professional Rack Mount series.

- The Agent computer should be plugged into one of black outlets.

Professional Tower series.

- The Agent computer should be plugged into one of outlets labeled **CRITICAL LOAD OUTLET BANK**.

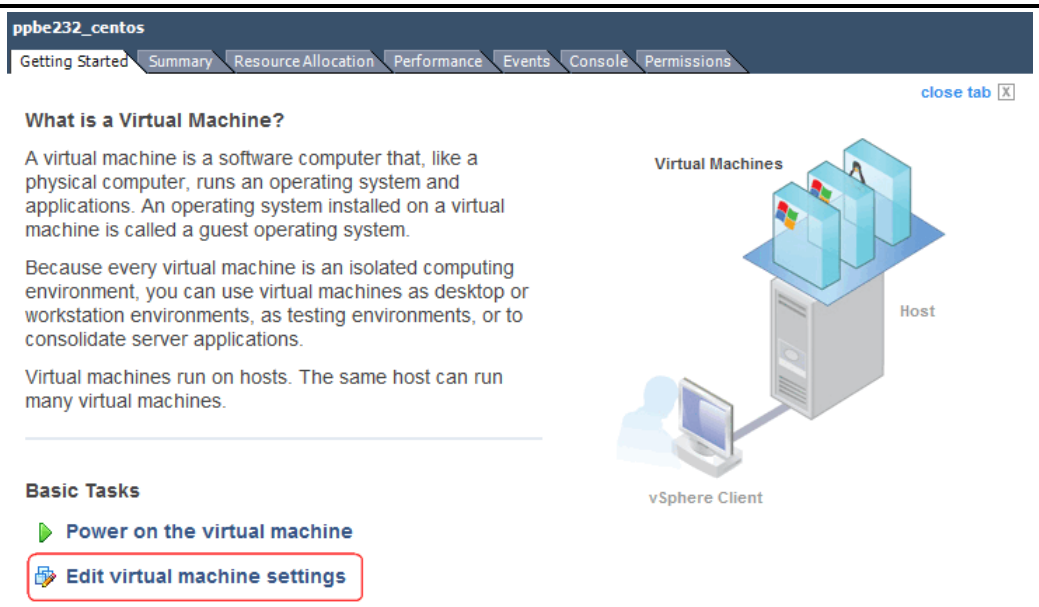
Ensure USB or Serial Cable between Computer and UPS is Connected Properly

Make sure the connection between the Agent computer and the UPS is securely connected. The Agent will not monitor the UPS status if the communication is lost.

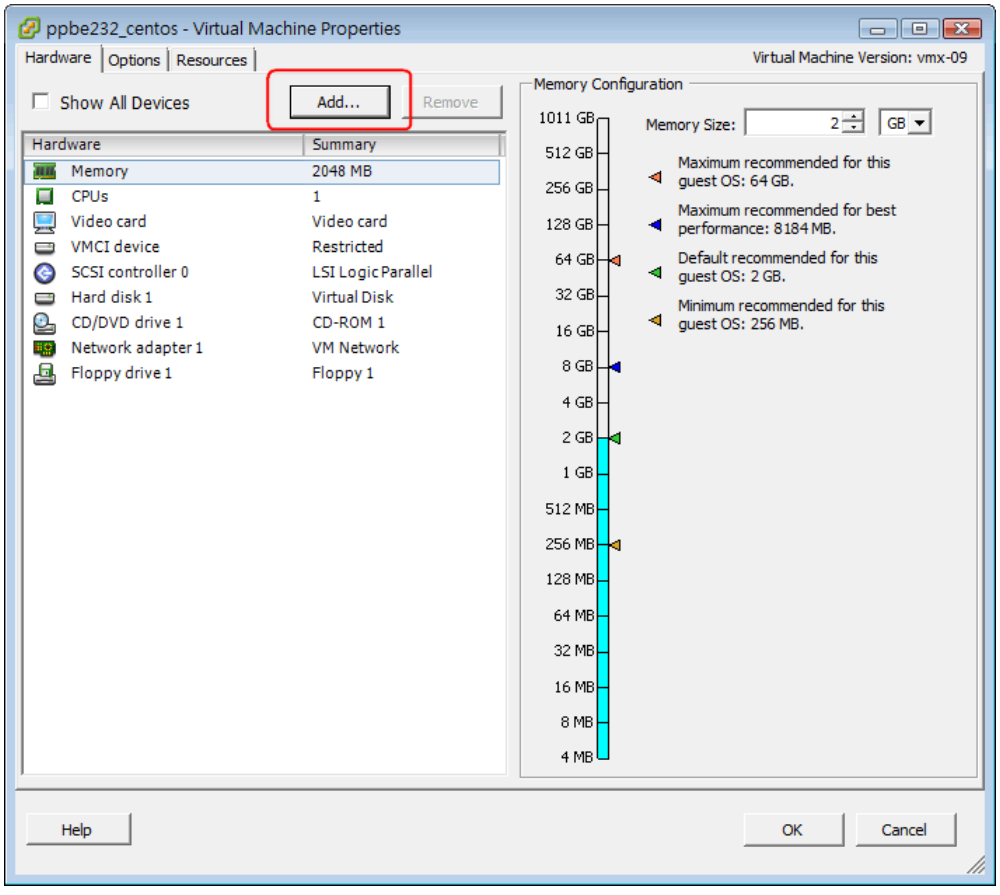
If Agent is installed on VMware vMA, or on any virtual machine in ESX and ESXi, USB device or serial cable which connects to the UPS should be assigned to vMA or any virtual machine manually.

Follow the below steps:

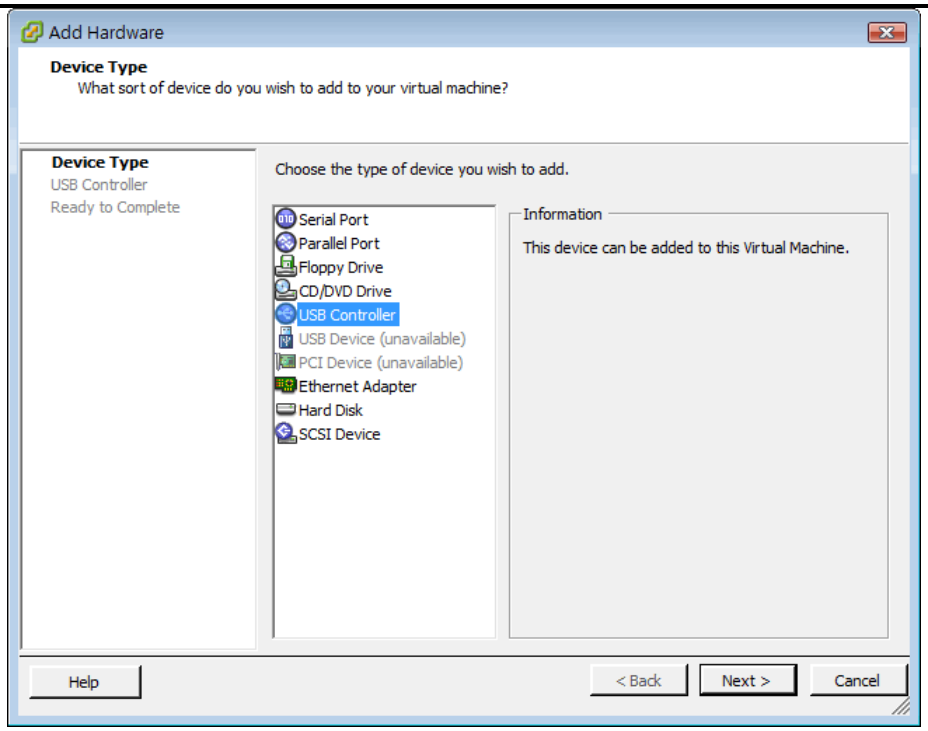
1. Click **Edit virtual machine settings** of the virtual machine. If the USB controller is available, go to step **6** to add a new USB device.


ppbe232_centos
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
close tab
What is a Virtual Machine?
A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system.
Because every virtual machine is an isolated computing environment, you can use virtual machines as desktop or workstation environments, as testing environments, or to consolidate server applications.
Virtual machines run on hosts. The same host can run many virtual machines.
Virtual Machines
Host
vSphere Client
Basic Tasks
Power on the virtual machine
Edit virtual machine settings

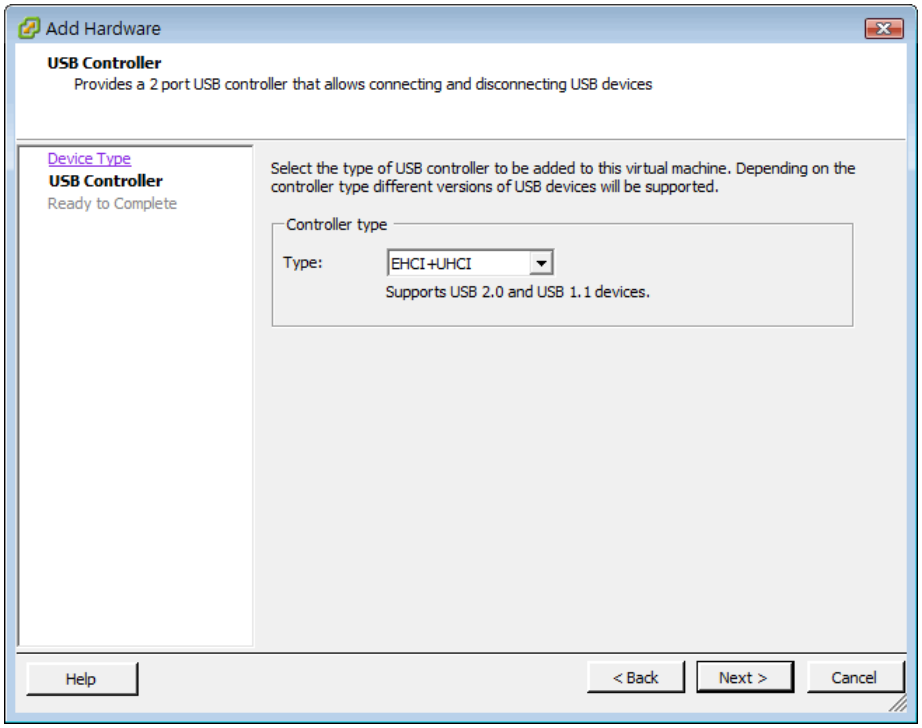
2. Click **Add** to add a new USB controller.



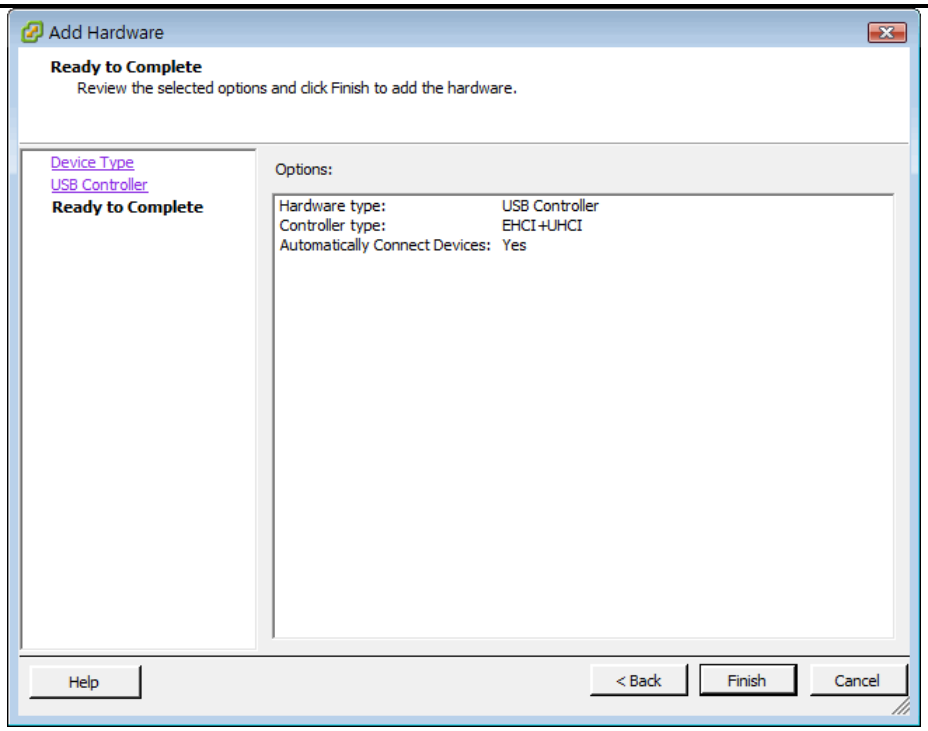
3. Select **USB Controller** from the list and click **Next.**



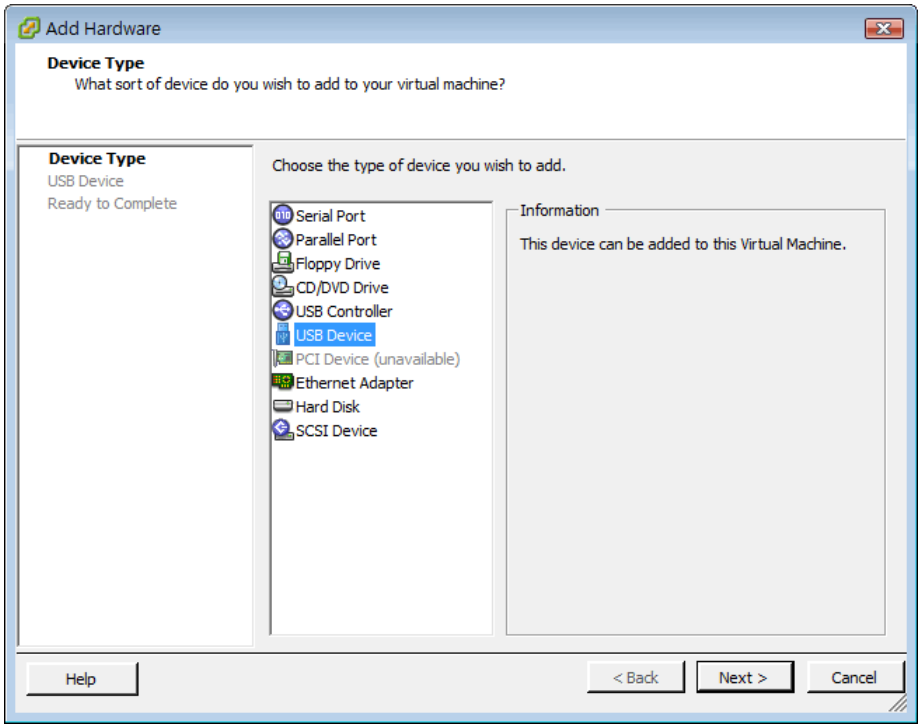
4. Select USB Controller Type.


Add Hardware
USB Controller
Provides a 2 port USB controller that allows connecting and disconnecting USB devices
Device Type
USB Controller
Ready to Complete
Select the type of USB controller to be added to this virtual machine. Depending on the controller type different versions of USB devices will be supported.
Controller type
Type:
EHCI+UHCI
Supports USB 2.0 and USB 1.1 devices.
Help
< Back
Next >
Cancel

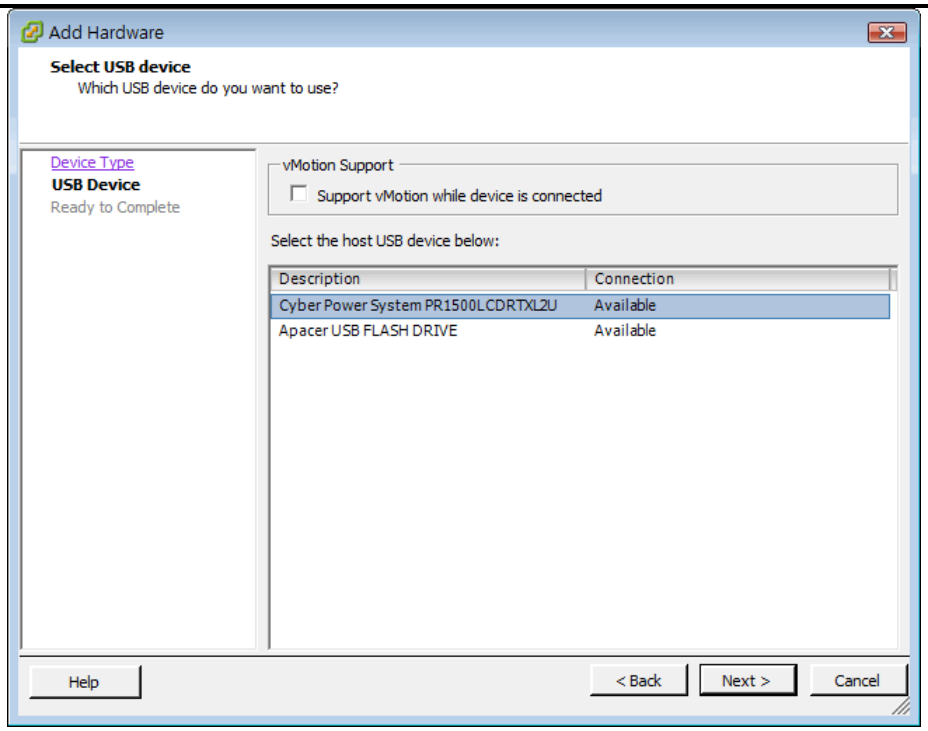
5. This will add a USB controller. Click **Finish** to finish.



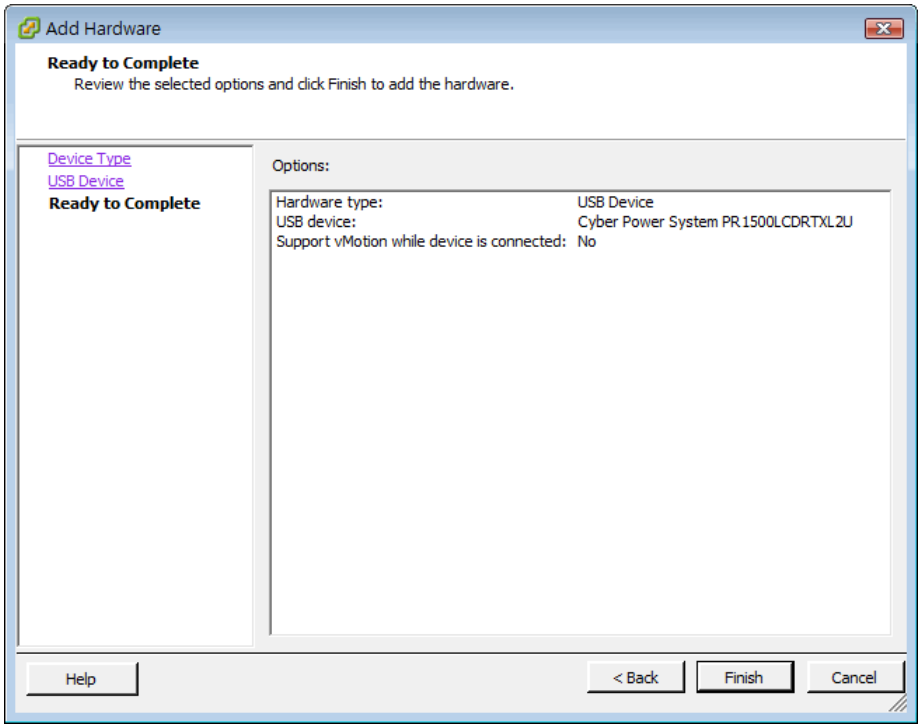
6. Select the **USB Device** and click **Next**.



7. Select the **USB Device** which is connected with the PPBE virtual machine.



8. USB device detail will be displayed and click **Finish** to finish. This will add a new USB device.



Note: *USB device passthrough from an ESX or ESXi host to the vMA is supported from ESX/ESXi 4.1.*

Note: *Citrix XenServer 5.0 and later versions support USB device.*

Installing PowerPanel® Business Edition Software

If a single computer has a USB or serial connection to UPS, the Agent should be installed on this computer. If multiple computers plugged into the UPS, the computers without the USB or serial connections should install

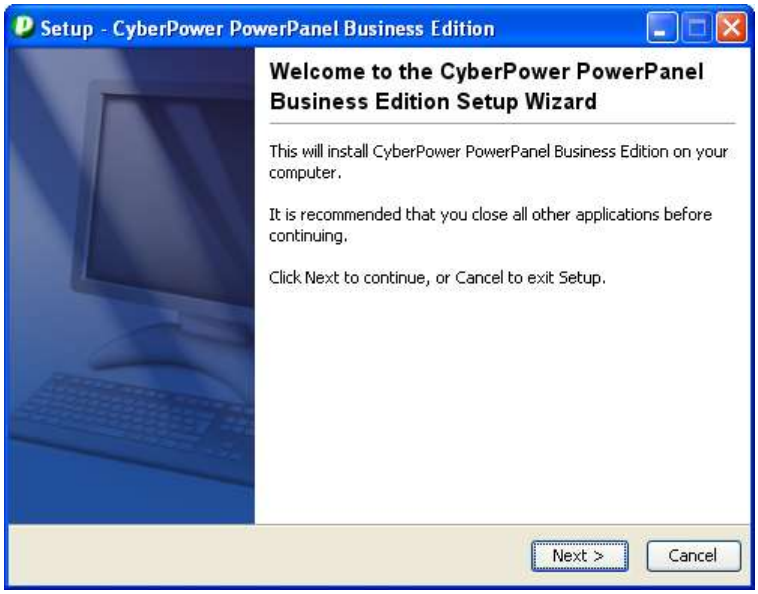
the Client. The PowerPanel® Business Edition software is compatible with Windows, Linux, Citrix XenServer and VMware ESX/ESXi systems.

Installation on Windows

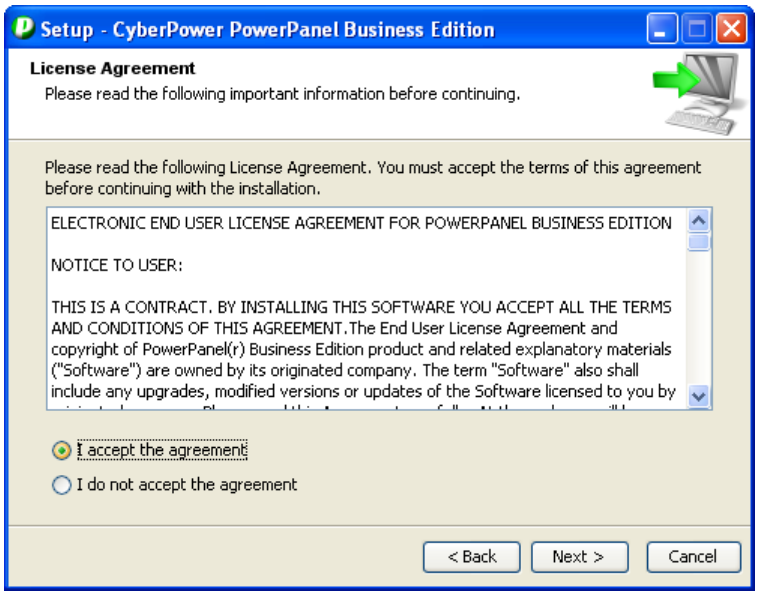
A popup window will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition software** shortcut on the popup page to initiate the installation procedure. If the popup window is not displayed when inserting the CD, browse to the CD drive and open the folder which locates at **/Software/Windows** then double click the file named **Setup.exe** to start the installation procedure.

To install follow these steps:

- Click the **Next** button to start an installation.

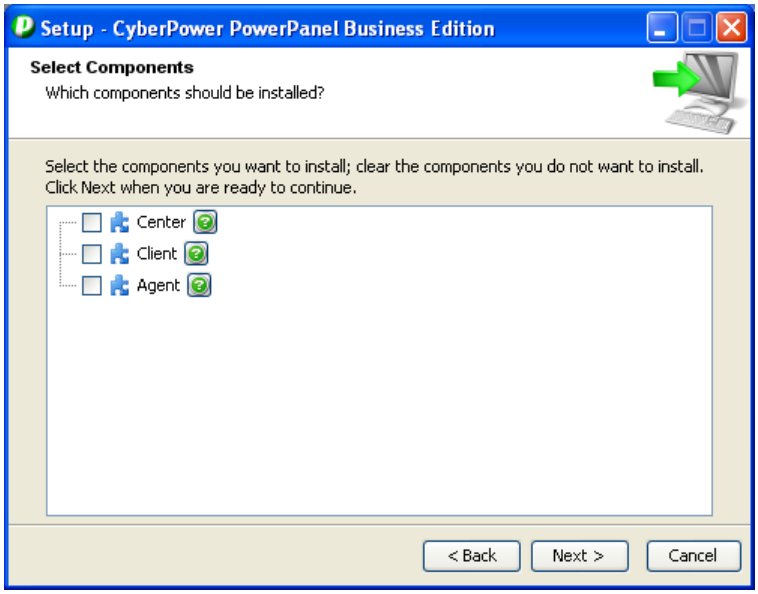

Setup - CyberPower PowerPanel Business Edition
Welcome to the CyberPower PowerPanel Business Edition Setup Wizard
This will install CyberPower PowerPanel Business Edition on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

- Accept the license agreement.

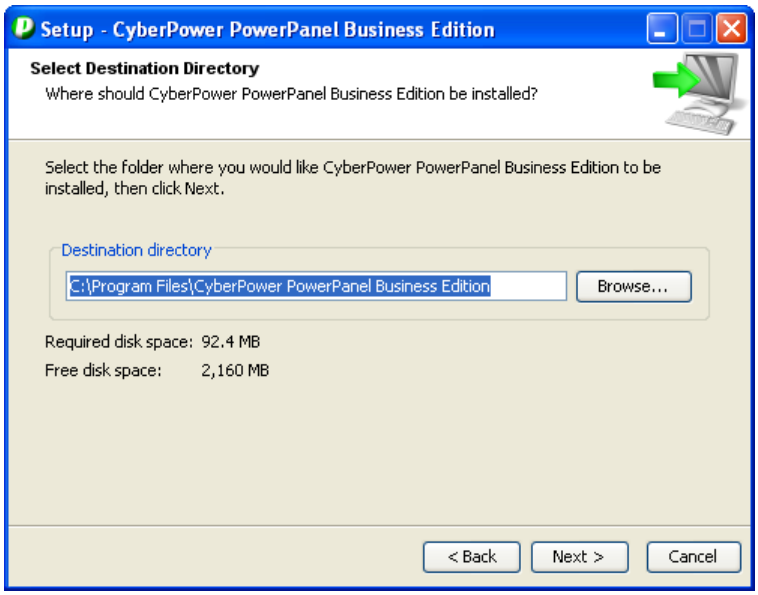

Setup - CyberPower PowerPanel Business Edition
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
ELECTRONIC END USER LICENSE AGREEMENT FOR POWERPANEL BUSINESS EDITION
NOTICE TO USER:
THIS IS A CONTRACT. BY INSTALLING THIS SOFTWARE YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT. The End User License Agreement and copyright of PowerPanel(r) Business Edition product and related explanatory materials ("Software") are owned by its originated company. The term "Software" also shall include any upgrades, modified versions or updates of the Software licensed to you by
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

- **Choose the component.** If the target computer is connected to the UPS directly via a USB or serial connection, Agent should be installed. If the computer does not have a USB or serial connection to the UPS, or the computer is powered by a UPS with a remote management card or a PDU, Client should be installed. If multiple UPS units require monitoring, Center should be installed.

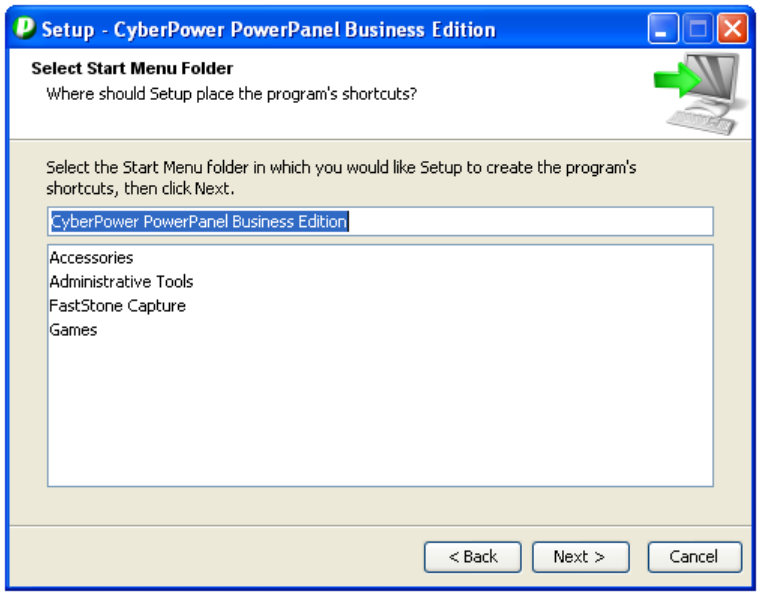
  Note: *Agent and Client cannot be installed on the same computer.*


Setup - CyberPower PowerPanel Business Edition
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Center
Client
Agent
< Back
Next >
Cancel

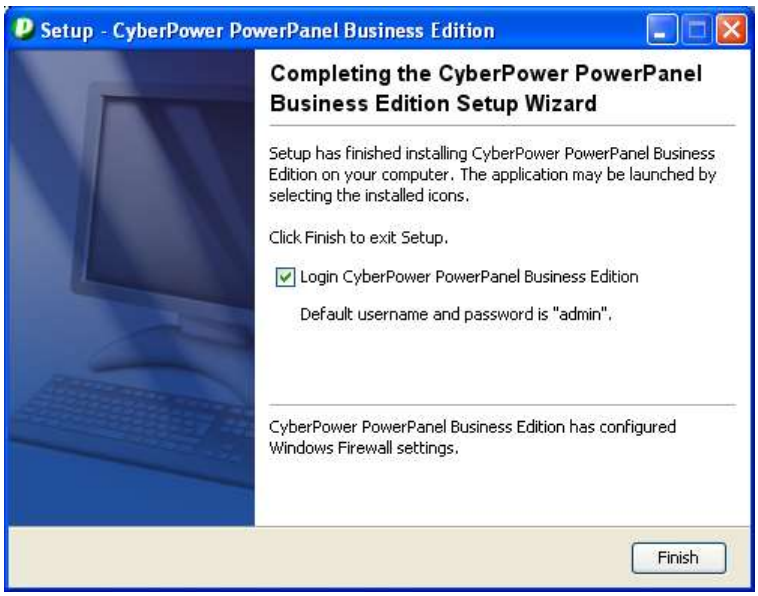
- Choose the destination directory.


Setup - CyberPower PowerPanel Business Edition
Select Destination Directory
Where should CyberPower PowerPanel Business Edition be installed?
Select the folder where you would like CyberPower PowerPanel Business Edition to be installed, then click Next.
Destination directory
C:\Program Files\CyberPower PowerPanel Business Edition
Browse...
Required disk space: 92.4 MB
Free disk space: 2,160 MB
< Back
Next >
Cancel

- Choose the start menu folder.


Setup - CyberPower PowerPanel Business Edition
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Select the Start Menu folder in which you would like Setup to create the program's shortcuts, then click Next.
CyberPower PowerPanel Business Edition
Accessories
Administrative Tools
FastStone Capture
Games
< Back
Next >
Cancel

- Click the **Finish** button to complete the installation.


Setup - CyberPower PowerPanel Business Edition
Completing the CyberPower PowerPanel Business Edition Setup Wizard
Setup has finished installing CyberPower PowerPanel Business Edition on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Login CyberPower PowerPanel Business Edition
Default username and password is "admin".
CyberPower PowerPanel Business Edition has configured Windows Firewall settings.
Finish

Installation on Linux

The installer is used to install the PowerPanel® Business Edition software and requires root permission. The installation wizard will guide users to complete the installation. Browse to the CD drive and find the installer in the **/Software/Linux** folder. Initiate an installation wizard by running **./ppbe-linux-x86.sh** command or double clicking **ppbe-linux-x86.sh** from desktop on 32-bit systems. Initiate an installation wizard by running the **./ppbe-linux-x86_64.sh** command or double clicking **ppbe-linux-x86_64.sh** from desktop on 64-bit systems.

Note: *On Linux, users may mount the CD by using the mount command. Run* ***mount –t iso9660 /dev/cdrom /mnt/cdrom*** *as a root user. /dev/cdrom is the CD drive and /mnt/cdrom will be the mount point.*

To install follow these steps:

- Click the **Next** button to start an installation.

Setup - CyberPower PowerPanel Business Edition
Welcome to the CyberPower PowerPanel Business Edition Setup Wizard
This will install CyberPower PowerPanel Business Edition on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

- Accept the license agreement.

Setup - CyberPower PowerPanel Business Edition
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
ELECTRONIC END USER LICENSE AGREEMENT FOR CYBERPOWER POWERPANEL BUSINESS EDITION
NOTICE TO USER:
THIS IS A CONTRACT. BY INSTALLING THIS SOFTWARE YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

- **Choose the component.** If the target computer can communicate with UPS directly via a USB or serial connection, Agent should be installed. If the computer does not have a USB or serial connection to the UPS, or the computer which is powered by the UPS with a remote management card or a PDU, Client should be installed. If multiple UPS requires a synchronous monitoring, Center should be installed.
  Note: *Agent and Client cannot be installed on the same computer.*

Setup - CyberPower PowerPanel Business Edition
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Center
Client
Agent
< Back
Next >
Cancel

- Choose the destination directory.

Setup - CyberPower PowerPanel Business Edition
Select Destination Directory
Where should CyberPower PowerPanel Business Edition be installed?
Select the folder where you would like CyberPower PowerPanel Business Edition to be installed, then click Next.
Destination directory
/usr/local/ppbe
Browse...
Required disk space: 62.1 MB
Free disk space: 6,176 MB
< Back
Next >
Cancel

- Click the **Finish** button to complete the installation**.**

Setup - CyberPower PowerPanel Business Edition
Completing the CyberPower PowerPanel Business Edition Setup Wizard
Setup has finished installing CyberPower PowerPanel Business Edition on your computer. The application may be launched by executing the installed start scripts.
Click Finish to exit Setup.
Login CyberPower PowerPanel Business Edi...
Default username and password is "admin".
Finish

Installation on Text Mode

When the system does not support graphic mode, the Linux installation needs to be initiated in the terminal by using the **./ppbe-linux-x86.sh -c** command on 32-bit systems or use **./ppbe-linux-x86_64.sh –c** command on 64-bit systems.

The installation procedure will be initiated as following steps:

- Press **Enter** to start an installation.

```
Starting Installer ...
This will install CyberPower PowerPanel Business Edition on your computer.
OK [o, Enter], Cancel [c]
```

- **Accept the license agreement.**

```
YOUR ACCEPTANCE OF THE FOREGOING AGREEMENT WAS INDICATED DURING
INSTALLATION.

I accept the agreement
Yes [1], No [2]
```

- **Choose the component.** If one single computer is connected to the UPS directly via a USB or serial connection, Agent should be installed. If the computer is powered by a UPS already connected to an Agent, has a remote management card installed or is connected to a PDU, Client should be installed. If the administrator requires simultaneous monitoring and access to multiple UPS/PDUs, equipment and computers on a local network, Center should be installed.

  Note: *Agent, Client and Center cannot be installed on the same computer.*

```
Which components should be installed?
1: Center
2: Client
3: Agent
Please enter a comma-separated list of the selected values or [Enter] for the de
fault selection:
```

- **Choose the destination location.**

```
Where should CyberPower PowerPanel Business Edition be installed?
[/usr/local/ppbe]
```

- Installation procedure starts to process until the installation is complete.

```
Please wait for CyberPower PowerPanel Business Edition configuring
Default username and password is "admin".
CyberPower PowerPanel Business Edition may not do hibernation.
Finishing installation...
```

Installation on VMware ESXi and ESX

Installation on ESXi

Installation must be launched in the **vMA** (**vSphere Management Assistant**) which is also a virtual machine on the ESXi host; Agent should be installed on the vMA of ESXi 4.1 or later versions. In order to deploy vMA on the ESXi host and install PPBE in the vMA, users must install the **vSphere Client** tool on another remote computer first. To download the vSphere Client installer, users can enter the ESXi host IP address to access the web page. Users can visit **VMware** website for ***vSphere Management Assistant Guide document*** about vMA deployment on VMware ESXi.

The installer will guide users in completing the installation. Refer to Installation on Text Mode section to follow the same steps to complete installation. The installer requires root permission to initiate the installation procedure. Mount CD by running **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user.(**/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.). Browse the CD drive and find the installer in the **/Software/Linux** folder. Initiate an installation procedure by running the **./ppbe-linux-x86_64.sh** command.

Before installing Agent with the USB or serial connection, make sure that the platform running the Agent supports USB or serial connection. VMware ESXi 4.1 and later versions support a USB device to be passed through from an ESXi host to vMA.

Note: *In order to make sure that Agent on vMA of the ESXi host can establish communication with UPS through USB connection, you should upgrade virtual hardware to the latest version. Refer to* ***How do I upgrade virtual hardware version of vMA*** *of* ***FAQ*** *chapter from* ***PowerPanel Business Edition User Manual*** *to know how to upgrade.*

Note: *In order to allow the interactions between physical and virtual machines, VMware tools have to be installed on each virtual machine. Refer to VMware ESX/ESXi Server documentation for further information about VMware Tools.*

Installation on ESX

Installation must be launched in the **Service Console** (aka **Console Operation System**). To initiate the installation procedure on VMware ESX also requires root permission. Use the same command to mount CD

and initiate the installation procedure.

Before installing Agent with the USB connection, make sure the host supports USB connection. ESX 4.1 does support USB devices. Refer to Installation on Text Mode section to complete the installation.

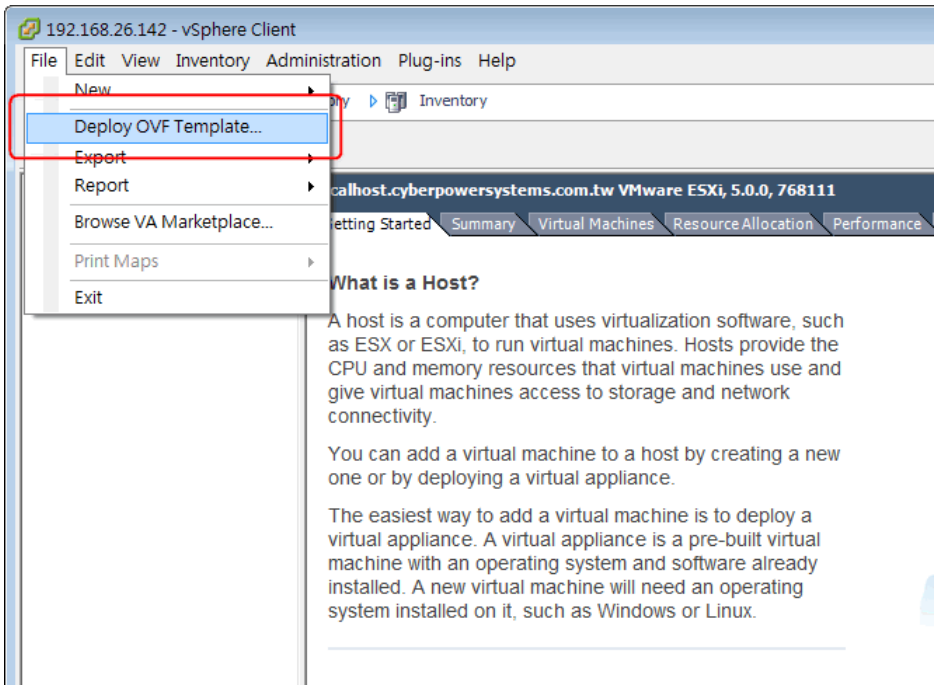
Virtual Appliance Deployment on ESXi

A virtual appliance (VA) is a prebuilt software solution, comprised of one or more virtual machines that is packaged, maintained, updated and managed as a unit. It is fundamentally changing how software is developed, distributed, deployed and managed.

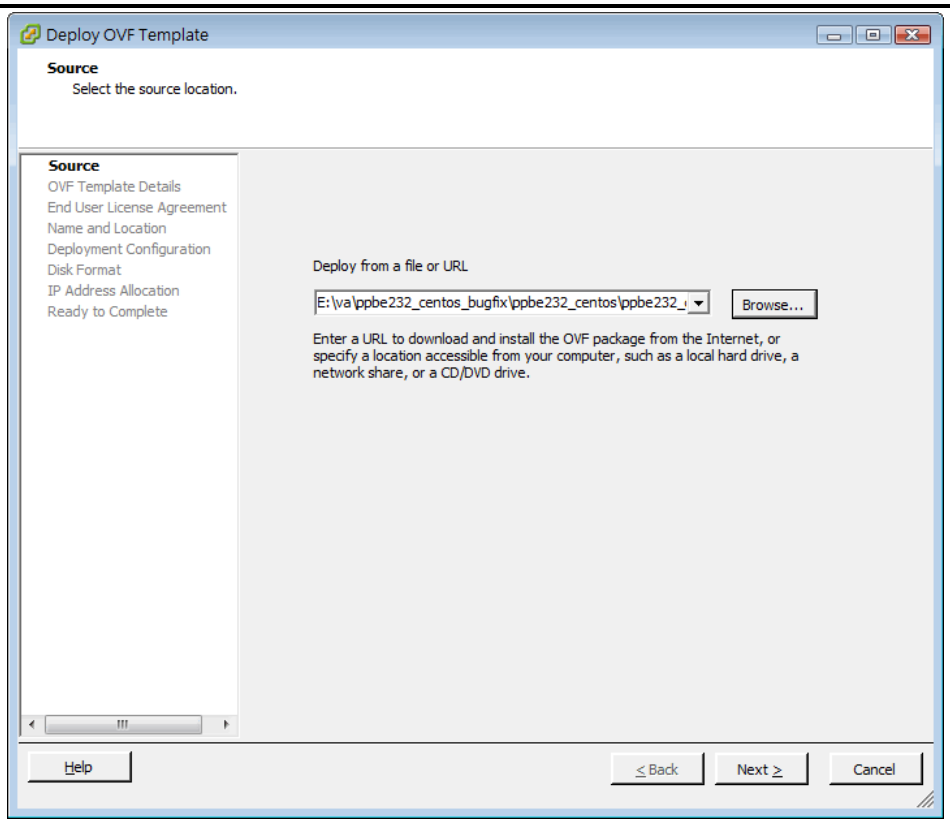
Download the PPBE virtual appliance which is pre-installed Agent from CyberPower. In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install vSphere Client tool first on the remote computer. To download the **vSphere Client** installer, users can enter the ESXi host IP address to access web page of ESXi host.

The deployment procedure will be initiated as below steps:

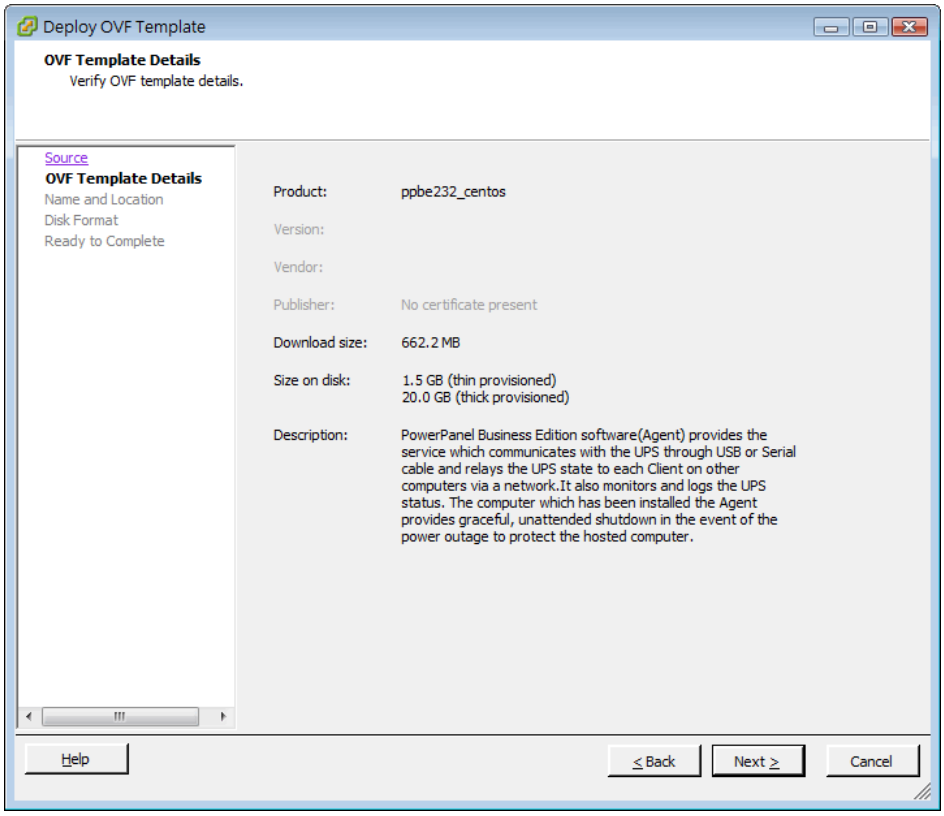
- Launch the vShpere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template…** item.


192.168.26.142 - vSphere Client
File
Edit
View
Inventory
Administration
Plug-ins
Help
New
Deploy OVF Template...
Export
Report
Browse VA Marketplace...
Print Maps
Exit
Inventory
calhost.cyberpowersystems.com.tw VMware ESXi, 5.0.0, 768111
Getting Started
Summary
Virtual Machines
Resource Allocation
Performance
What is a Host?
A host is a computer that uses virtualization software, such as ESX or ESXi, to run virtual machines. Hosts provide the CPU and memory resources that virtual machines use and give virtual machines access to storage and network connectivity.
You can add a virtual machine to a host by creating a new one or by deploying a virtual appliance.
The easiest way to add a virtual machine is to deploy a virtual appliance. A virtual appliance is a pre-built virtual machine with an operating system and software already installed. A new virtual machine will need an operating system installed on it, such as Windows or Linux.

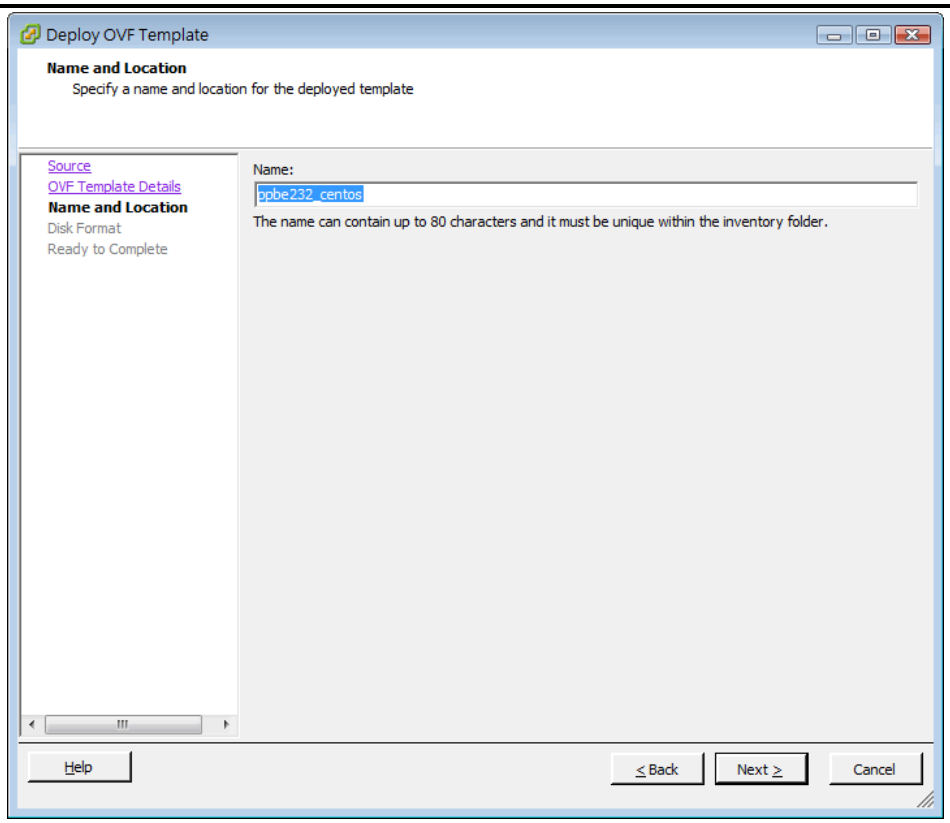
- Click **Browse** to import the **ppbeXXX_centos.ovf** extracted from the download zip file. Click **Next** to start a deployment task.


Deploy OVF Template
Source
Select the source location.
Source
OVF Template Details
End User License Agreement
Name and Location
Deployment Configuration
Disk Format
IP Address Allocation
Ready to Complete
Deploy from a file or URL
E:\va\ppbe232_centos_bugfix\ppbe232_centos\ppbe232_
Browse...
Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.
Help
< Back
Next >
Cancel

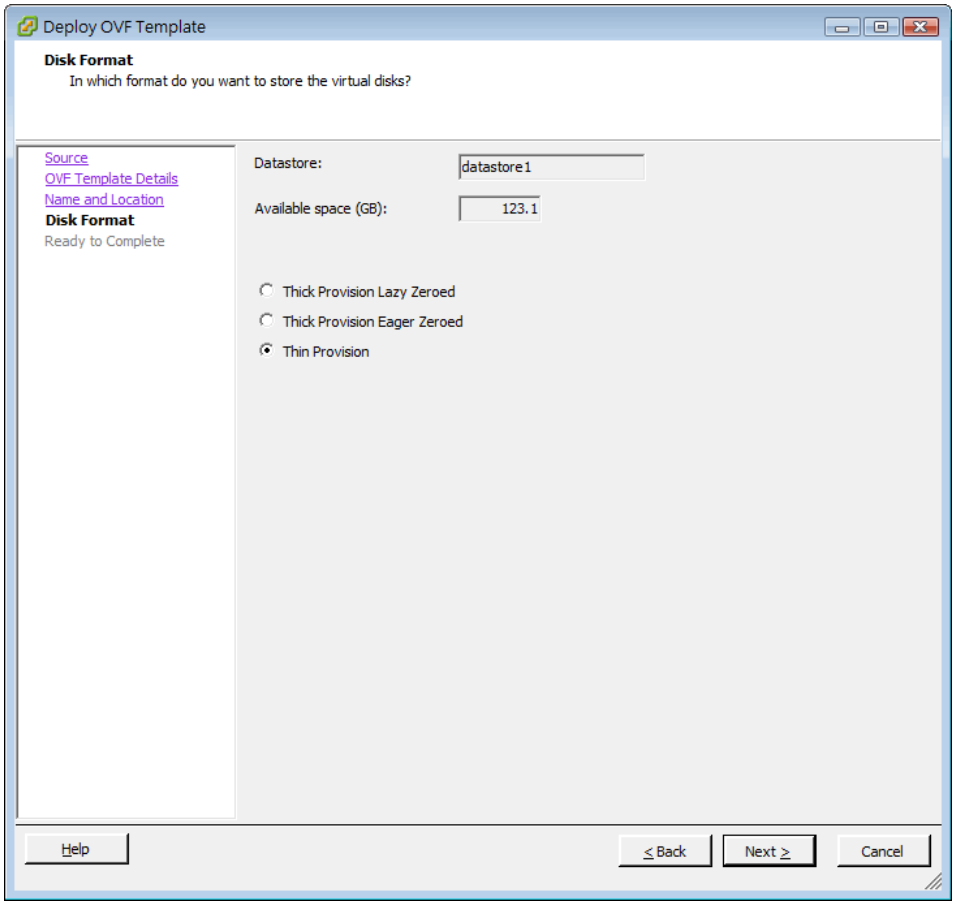
- The OVF template detail is displayed. Click **Next** to continue.


Deploy OVF Template
OVF Template Details
Verify OVF template details.
Source
OVF Template Details
Name and Location
Disk Format
Ready to Complete
Product: ppbe232_centos
Version:
Vendor:
Publisher: No certificate present
Download size: 662.2 MB
Size on disk: 1.5 GB (thin provisioned)
20.0 GB (thick provisioned)
Description: PowerPanel Business Edition software(Agent) provides the service which communicates with the UPS through USB or Serial cable and relays the UPS state to each Client on other computers via a network.It also monitors and logs the UPS status. The computer which has been installed the Agent provides graceful, unattended shutdown in the event of the power outage to protect the hosted computer.
Help
< Back
Next >
Cancel

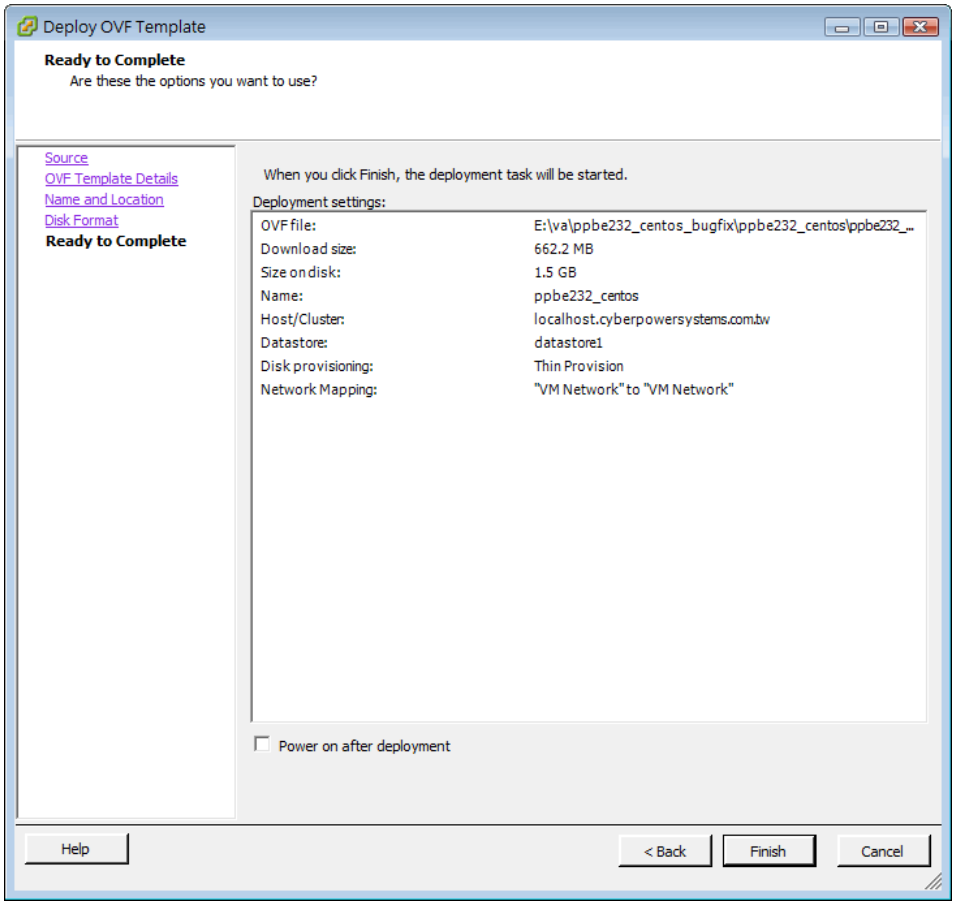
- Enter the name for the deployed PPBE virtual appliance. The default option is **Thin Provision**. This name should be unique within the inventory.



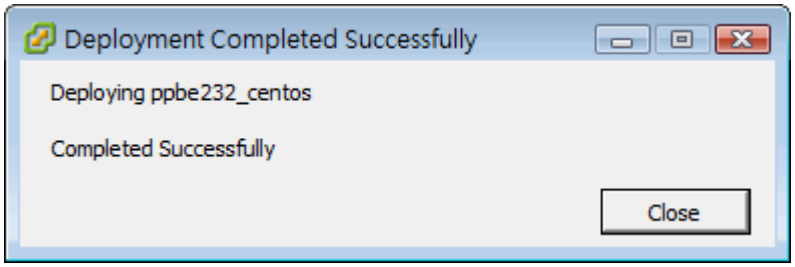
- Select the virtual disk format for the PPBE virtual appliance. Refer to About Virtual Disk Provision Disk Policies for further information about how to select virtual disk format.



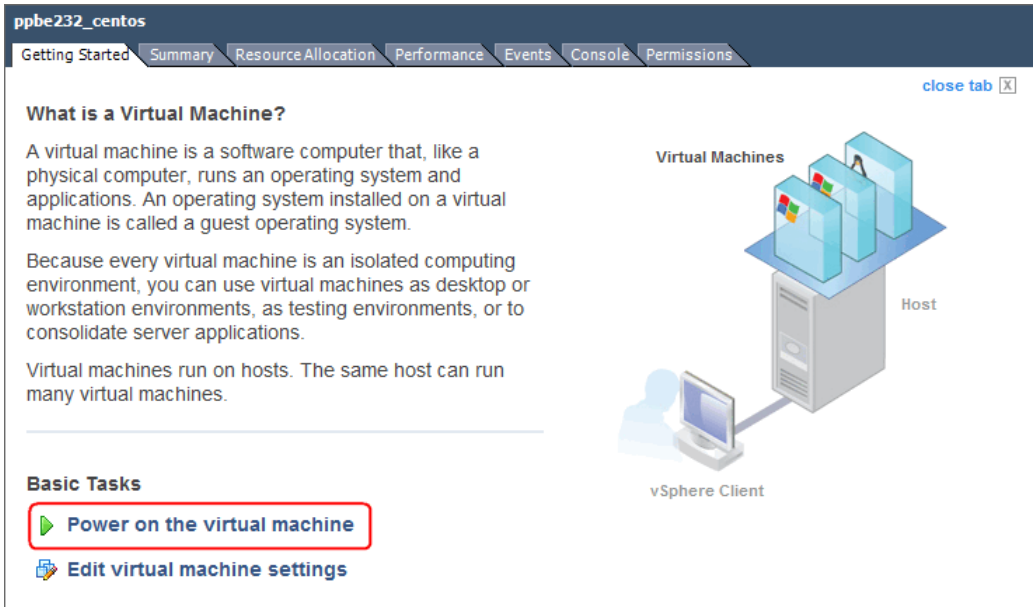
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- After the deployment task is complete, the PPBE virtual appliance will be added into the inventory.



- Click **Power on the virtual machine** to power on the virtual machine and ready to access the PPBE.


ppbe232_centos
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
close tab
What is a Virtual Machine?
A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system.
Because every virtual machine is an isolated computing environment, you can use virtual machines as desktop or workstation environments, as testing environments, or to consolidate server applications.
Virtual machines run on hosts. The same host can run many virtual machines.
Virtual Machines
Host
vSphere Client
Basic Tasks
Power on the virtual machine
Edit virtual machine settings

- Login the virtual appliance. The default username and password are **admin.** In order to perform shutdown accurately, you must change the time zone settings of the virtual appliance.
  This can be a direct copy of the time zone file from the **/usr/share/zoneinfo** folder. We assume that the host is located under the Chicago CST zone in Chicago, and the time zone can be changed by running the command **cp /usr/share/zoneinfo/America/Chicago /etc/localtime**.

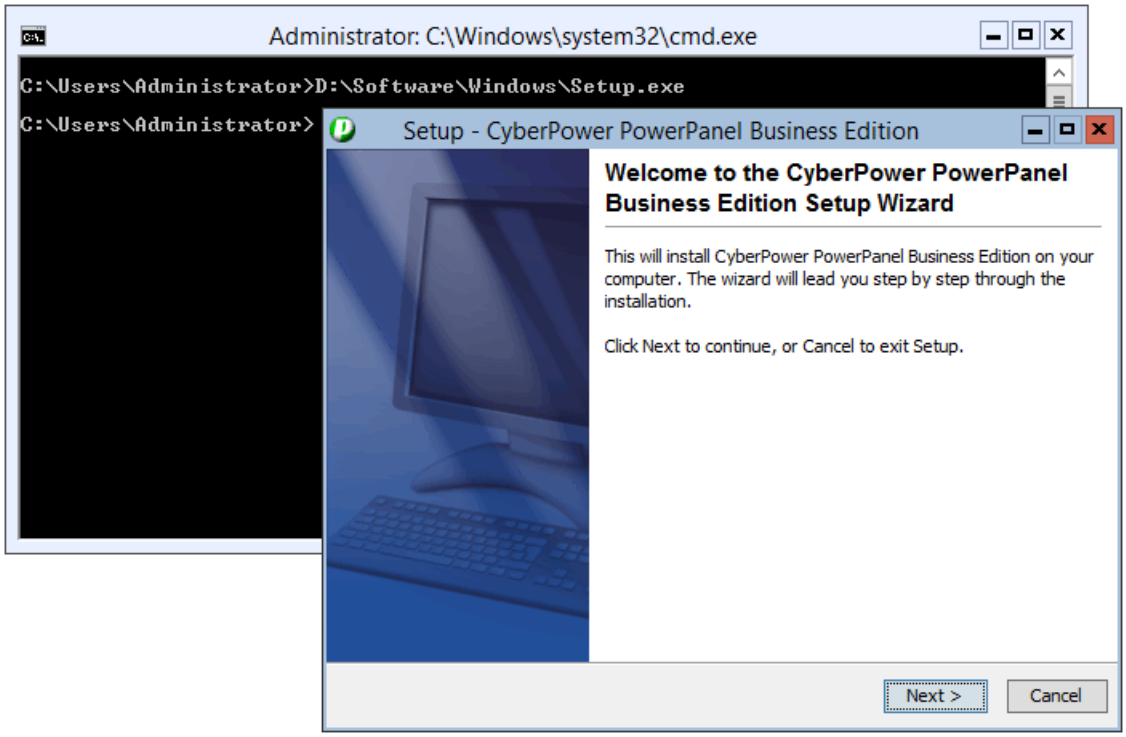
Installation on XenServer

The installer requires root permission to install the PowerPanel® Business Edition. Mount CD by running **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user (**/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.). Browse the CD drive and run **./ppbe-linux-x86.sh** command to initiate an installation procedure.

Installation must be launched on the **Dom0**; Agent should be installed on the Dom 0 of XenServer 5 or later versions. Refer to Installation on Text Mode section to complete the installation. Before installing Agent with the USB or serial connection, make sure that the platform running the Agent supports USB or serial connection. Citrix XenServer 5.0 and later versions support USB device.

Installation on Hyper-V Server

Use the PowerPanel® Business Edition installation CD to complete the installation on the target computer. Run the ***<CD_Drive>\Software\Windows\setup.exe*** of the command prompt such as below illustration to start the installation procedure (***CD_Drive*** *is a CD drive formatted as* ***D:*** *or* ***E:***). A popup window will be displayed when the installation is launched. Refer to **Installation on Windows** section to follow the same steps to complete installation.


Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>D:\Software\Windows\Setup.exe
C:\Users\Administrator>
Setup - CyberPower PowerPanel Business Edition
Welcome to the CyberPower PowerPanel Business Edition Setup Wizard
This will install CyberPower PowerPanel Business Edition on your computer. The wizard will lead you step by step through the installation.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

Access PowerPanel® Business Edition Software Interface

To access the Agent web interface in Windows, go to **Start > All Programs > CyberPower PowerPanel Business Edition > PowerPanel Business Edition Agent** or **PowerPanel Business Edition Client** or **PowerPanel Business Edition Center**), which will take you to the login page.

On Linux, user can enter the URL as **http://localhost:3052/** in the address of the web browser to access to the interface. Users can also enter the URL, **http://localhost:3052/** in the local computer or **http://hosted_computer_ip_address:3052/** in the remote computer, to the address field of the web browser to access the PowerPanel® Business Edition software web interface. **hosted_computer_ip_address** is the IP address of the computer which has the PowerPanel® Business Edition software installed. For the virtual machine such as vMA or VA on the ESX or ESXi, **hosted_computer_ip_address** is the IP address of the virtual machine (**Note**: **hosted_computer_ip_address** is the IP address of the host computer on ESX.).

The default username is **admin** and default password is **admin**. For security consideration, it is recommended to change the login username and password after the initial login.

PowerPanel® Business Edition supports multiple-language function and allows users to change language. It will choose the suitable language as the default one to display at the initial access. Users can change the language from the banner. After the language is changed, the page will refresh automatically and choose the assigned language as the default one to display.

Setup Necessary Shutdown Time

Each computer running the Agent or the Client requires a sufficient time to be shut down completely before the UPS stops supplying power. Therefore users should set up this sufficient time at the *Necessary shutdown time* option on the **Event Action/Settings** page in the Agent and the Client.

Configure Power Protection for More Computers

In order to ensure that computers connected to the UPS have sufficient time to complete the shutdown prior to the outlets turning off, Client should be installed. The Client will establish communication with the Agent and receive commands from the UPS for a complete shutdown to avoid data loss or a system crash. Refer to **Install PowerPanel® Business Edition Software** to installing the Client.

Assign Agent's IP Address and Connected Outlet in Client

Users must assign the Agent's IP address and connected outlet on the **Power/Configuration** page in Client to establish communication through the network. In order for Agent to respond the Client normally, the secrete phase configuration must be setup properly.

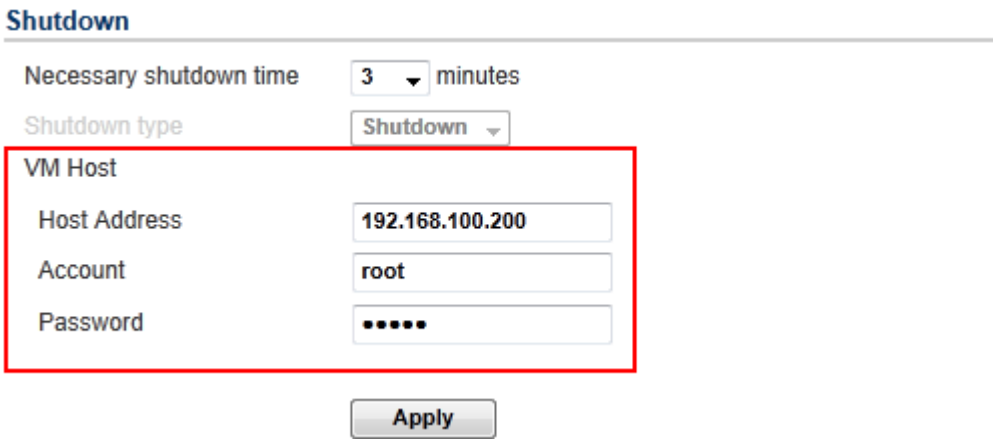
Assign the IP address of Agent computer at the *Address* field or pick an address from the device list which shows all devices on the local network. Users have to assign the correct outlet which supplies power to the Client computer according to actual connection. Click **Apply** button for Client to establish the communication with Agent.

Note: *More Clients can also establish communications by assigning IP addresses and connected outlets on the* ***UPS/Load*** *page in Agent. Users can complete configurations to multiple Clients in Center easily.*

Configure Shutdown Action for ESXi

In order to assure the ESX/ESXi host and all virtual machines can be shut down correctly in case of power events, users have to configure the ESXi host address, account and password of root user for the host shutdown from the virtual machine running Agent. Fill in the *Host Address, Account* and *Password* fields with actual username and password for ESXi host on the **Event Action/Settings** page. Due to PowerPanel® Business Edition software is installed on the Service Console of ESX instead of vMA, **Event Action/Settings** page does not provide these settings for users to configure.

Note: Host Address *is the IP address of the ESXi host computer on which vMA is operating but not the IP address of vMA.*

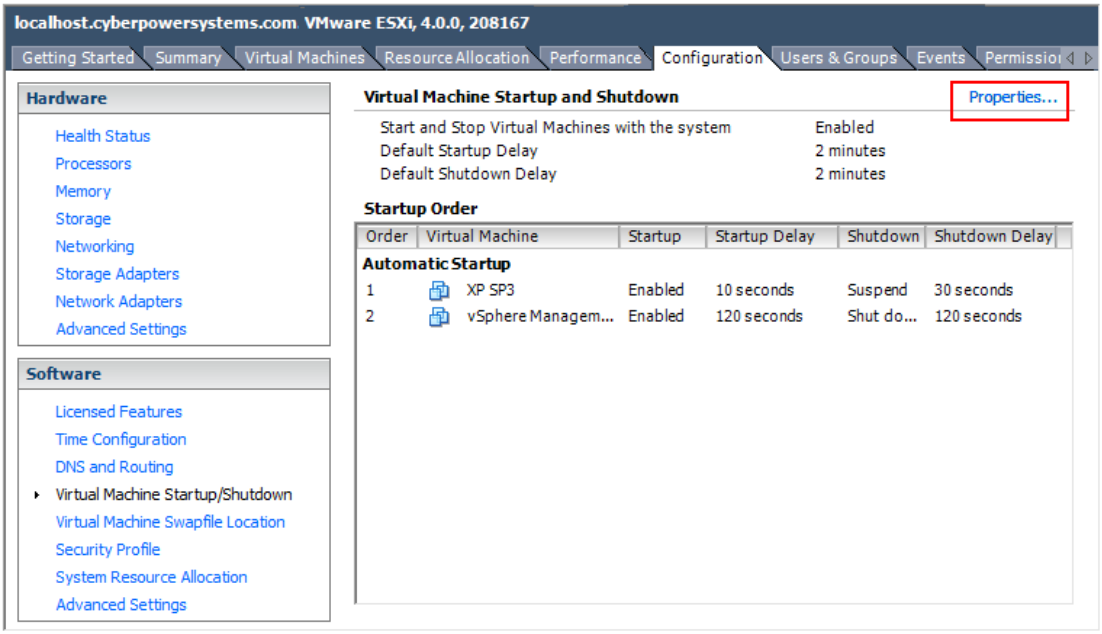


Note: *In order to allow the interactions between physical and virtual machines, VMware tools have to be installed on each virtual machine. Refer to VMware ESX/ESXi Server documentation for further information about VMware Tools.*

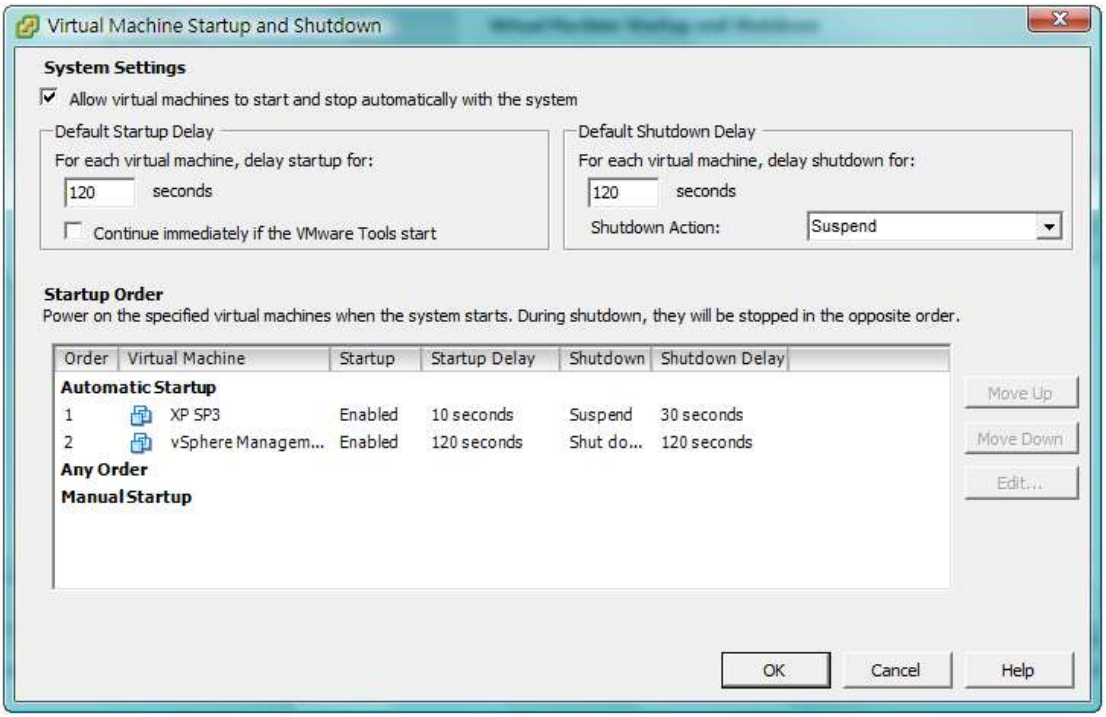
Configure Startup and Shutdown of Virtual Machines on ESX/ESXi

In order to assure that all virtual machines could be shut down and restart gracefully:

- Select the topmost ESX/ESXi server host from the tree hierarchy on the right side. Go to **Configuration > Virtual Machine Startup/Shutdown** menu **> Properties** of the vSphere Client.



- Enable the **Allow virtual machines to start and stop automatically with the system** option.

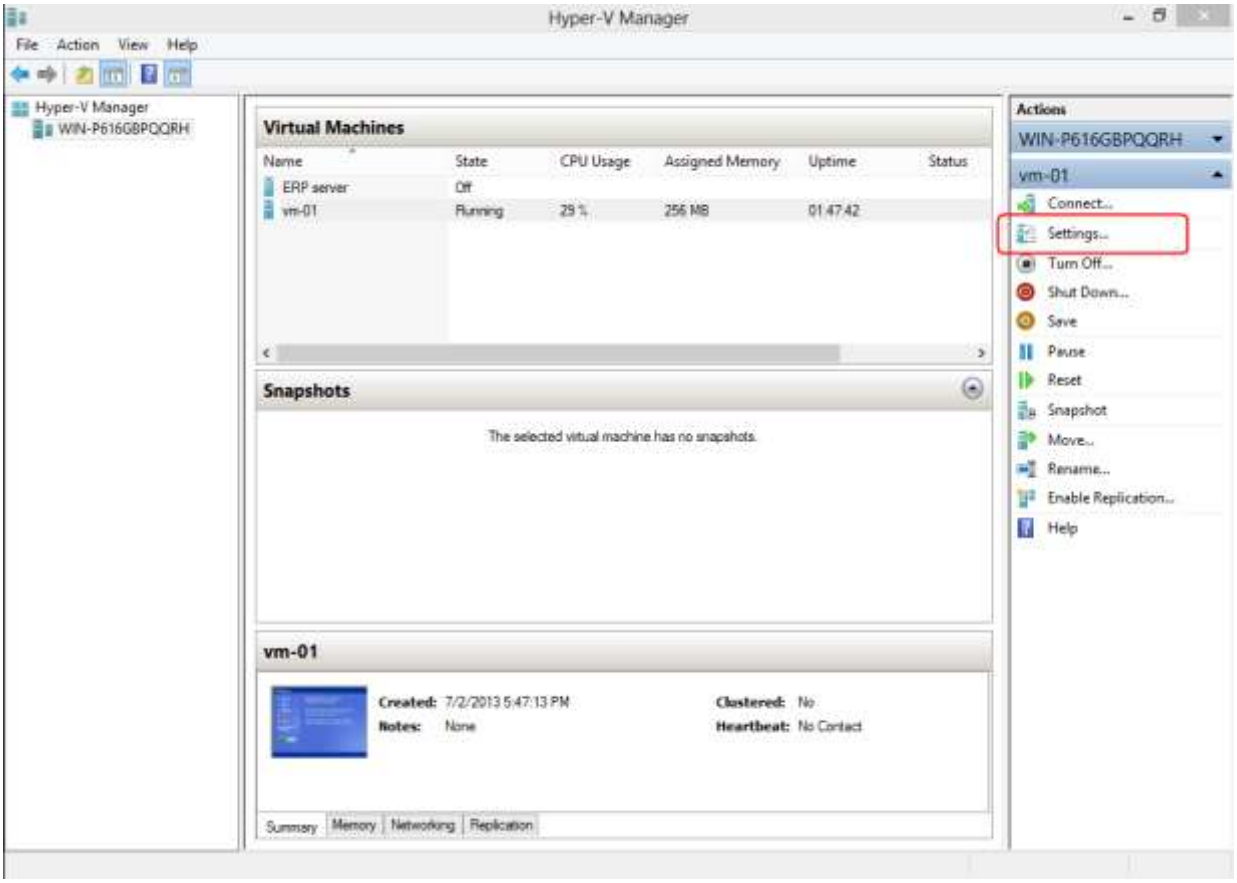


Configure Shutdown of Virtual Machines on Hyper-V Server

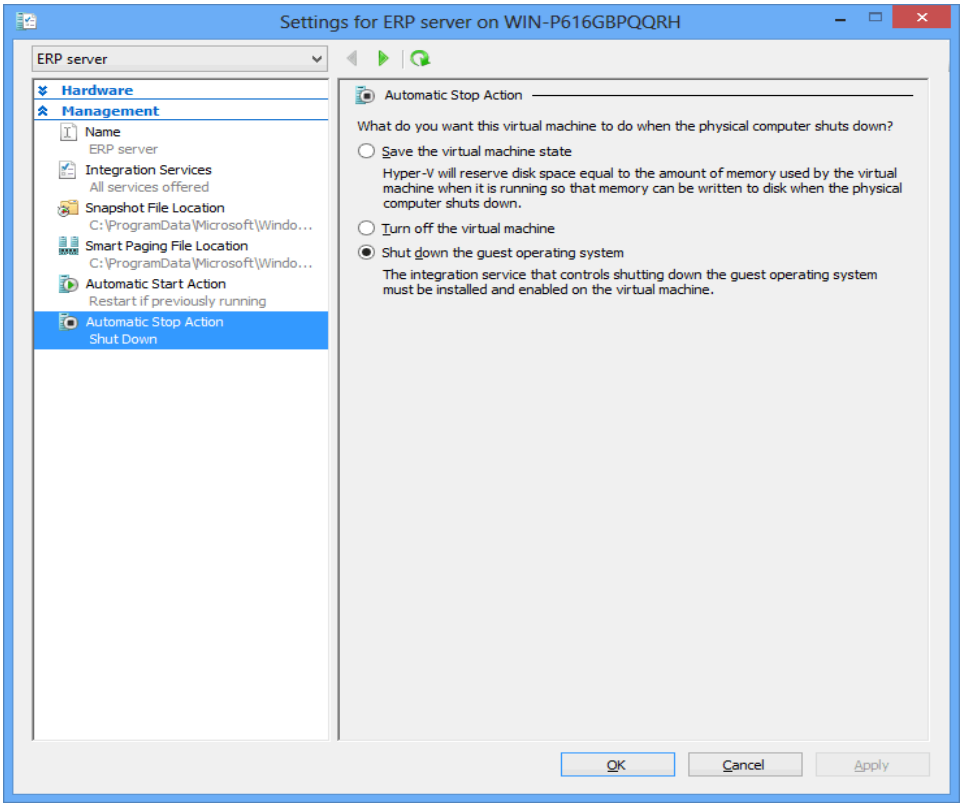
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

Follow below steps to configure the guest virtual machine to shut down with the host:

- Using the Hyper-V Manager to choose a VM and the click **Settings**.



- Choose the **Automatic Stop Action** and choose **Shut down the guest operating system**.


Settings for ERP server on WIN-P616GBPQQRH
ERP server
Hardware
Management
Name
ERP server
Integration Services
All services offered
Snapshot File Location
C:\ProgramData\Microsoft\Windo...
Smart Paging File Location
C:\ProgramData\Microsoft\Windo...
Automatic Start Action
Restart if previously running
Automatic Stop Action
Shut Down
Automatic Stop Action
What do you want this virtual machine to do when the physical computer shuts down?
Save the virtual machine state
Hyper-V will reserve disk space equal to the amount of memory used by the virtual machine when it is running so that memory can be written to disk when the physical computer shuts down.
Turn off the virtual machine
Shut down the guest operating system
The integration service that controls shutting down the guest operating system must be installed and enabled on the virtual machine.
OK
Cancel
Apply

Hyper-V server will shut itself down only after the running virtual machines shut down. Ensure that the *Necessary shutdown time* in the **Event Actions/Settings** page must be sufficient to support the virtual machines to shut down and the Hyper-V server to shut down.

***Note**: In order to allow the interactions between physical and virtual machines, Hyper-V Integration Service (HIS) have to be installed on each virtual machine by accessing **Insert Integration Services setup disk** item from the **Action** menu of each virtual machine's console.*
If the virtual machine is running a Linux distribution, refer to the Linux Integration Services for Hyper-V page to download and re install the Linux integration service for Hyper-V.

Mass Deployment

In order to install Agent on more computers and apply the same settings, users can follow below steps to complete the automatic deployment:

- **Export Profile.** Choose one target Client to export its power configuration and system settings to the profile on the **Preferences/Profile** page.
- Copy below example code to the text editor and save as new file named **setup.varfile**.

```
installModule=agent
installationDir=ppbe_installation_directory
profilePath=exported_zip_location
```

- Edit the **setup.varfile** to replace **installationDir** and **profilePath** parameters. **installationDir** indicates the absolute path of installation directory for Client (e.g. *C:/Programs/CyberPower PowerPanel Business Edition/PowerPanel Business Edition* or */opt/ppbe*). **profilePath** indicates the absolute path of profile (e.g.

C:/import/profile.zip or */import/profile.zip*).

- Place the **setup.varfile** and installer in the same directory. Make sure that the filename must be the same (e.g. **setup.exe** and **setup.varfile**).
- For Windows users, running the below command in the command prompt to complete the installation.

```
setup.exe –q –console –Dinstall4j.detailStdout=true
```

- For Linux users, running the below command in terminal to complete the installation.

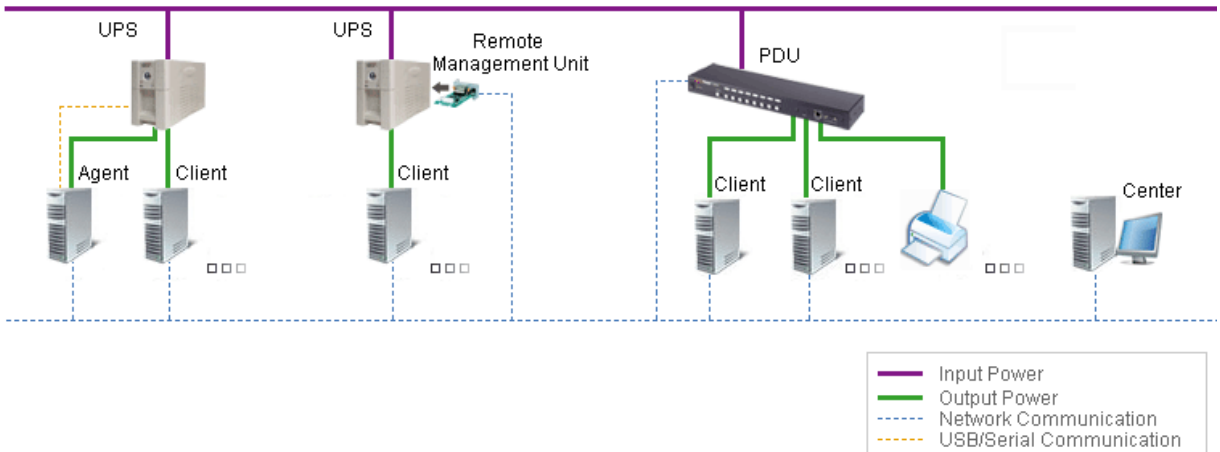
```
sudo setup.sh –q –console –Dinstall4j.detailStdout=true
```

***Note**. When you would like to upgrade the pre-installed Agent or Client during the unattended installation, set the **installationDir** parameter blank. The installer will automatically detect where preinstallation PPBE directory locates and attempt to complete the upgrade installation.*
*Computers which never installed Agent or Client can be installed the PPBE by assigning a valid path. Assigning a blank path to the **installationDir** parameter during the unattended installation will allow the installer to use the default path as the installation directory. **C:/Program Files/CyberPower PowerPanel Business Edition/** will be the default installation directory in Windows systems. **/opt/ppbe** or **/usr/local/ppbe** will be the default installation directory in most Linux distributions.*

Manage UPS Units in Center

If the administrator requires monitoring multiple UPS units on the local network at one time, PowerPanel® Business Edition Center should be installed. The Center will track the state and events from the monitored UPS units and monitored UPS units can accept commands from the Center for shutting off or restarting. Refer to **Install PowerPanel Business Edition Software** chapter for further details about Center installation.

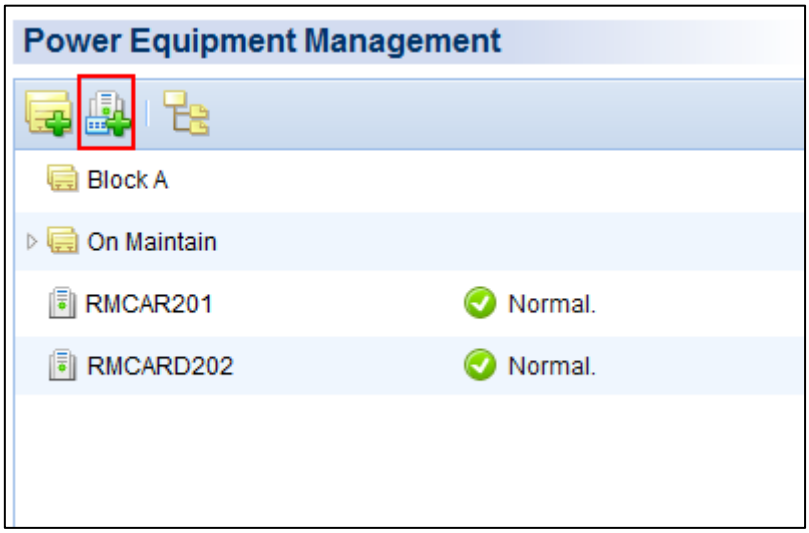
The Center can also establish communication with the multiple PDUs and UPS units with Remote Management Card. Monitored PDUs and UPS units will relay the state to the Center and notify Center what power event occurs.



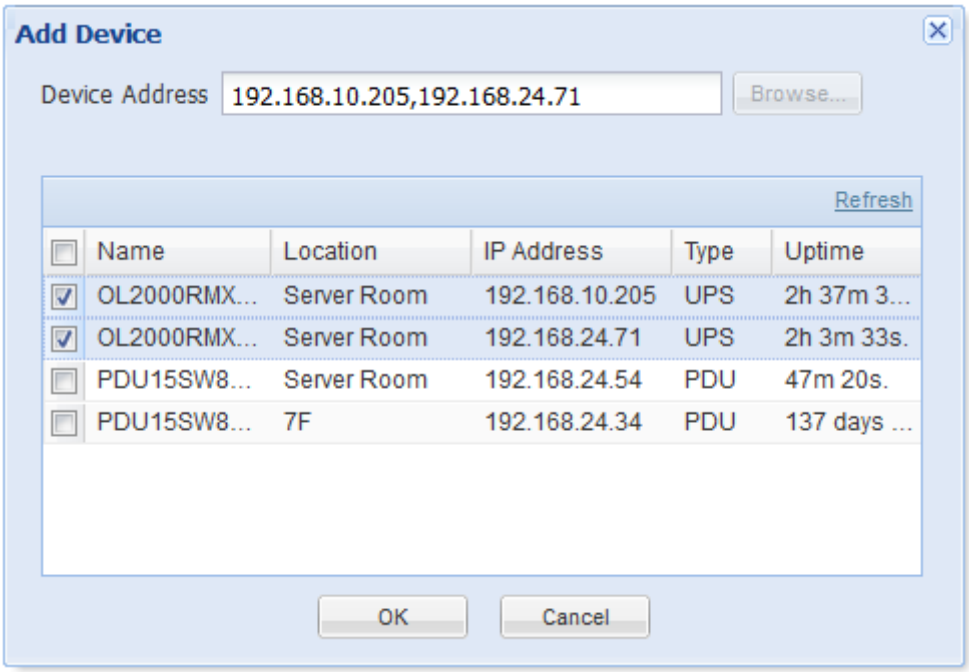
Add UPS Units

Users can monitor and control multiple UPS on the **Management/Power Equipment** page by accessing the *Add Device* window to add UPS units to Center as below:

The *Add Device* window can be accessed by clicking the *Add Device* button of the toolbar or selecting *Add Device* of the context menu of any one group node.



Either enter the IP address of UPS RMCARD on the *Device Address* field or click the **Browse** button to display the device list and select the IP address from the list. Click OK to proceed to add the selected UPS.



Note: *If users need to add more UPS units to Center, please repeat steps the aforementioned steps*

Note: *Please refer to* **PPBE User's Manual** *about further details of more functions about Center.*